

REMARKS

Reconsideration is requested.

Claims 1-56, 69-72, 74, 76, 77 and 79-84 have been canceled, without prejudice.

Claims 57, 62-68, 73 and 78 have been withdrawn from consideration.

The Section 112, second paragraph, rejection of claim 84 is moot in view of the above.

The Section 112, second paragraph, rejection of claim 74 is moot in view of the above.

To the extent not obviated by the above, the Section 102 rejection of claims 58-61, 74-77, 79 and 82-84 over Pan (WO 02/055561), is traversed. Similarly, the Section 102 rejection of claims 58-61, 69-72, 74, 79 and 82-84 over Wang (U.S. Patent No. 7,175,983), is traversed. Finally, to the extent not obviated by the above, the Section 103 rejection of claims 58-61, 69-72, 74, 75, 79 and 82-84 over Wang in view of Short (U.S. Patent No. 6,806,048), is traversed. Reconsideration and withdrawal of the rejection are requested in view of the above and the following distinguishing comments.

The claimed invention relates to a method of bioconversion in organic solvent system using a β -galactosidase, which comprises the steps of preparing a vector for displaying on the spore surface comprising a gene construct from pCrylp-CMCase-hp and a gene encoding the β -galactosidase, transforming a host cell, displaying display motif and the β -galactosidase in a fusion form on the spore surface of the host cell, recovering the spore displayed on the surface, and performing the bioconversion reaction in organic solvent system.

Pan et al relates to a method for preparing a protein of interest which is surface-displayed on genetic carrier. Pan et al; at best, provides only a general method of forming spores and surface displaying them, and compositions using a spore system and its method. However, the applicants believe that Pan et al does not teach any specific technology which will anticipate or make the claimed invention obvious, such as preparing vector system in an organic solvent system and surface displaying a display motif and β -galactosidase in a fusion form.

The applicants understand Wang et al to relate to a displaying of an exogenous polypeptide on the outer surface of a phage particle. The applicants understand Wang et al to only teach a general method of surface displaying with transforming an expression vector including an exogenous polypeptide on a phage. The applicants believe that Wang fails to describe or suggest a method of preparing vector system of pCrylp-CMCase-hp and performing the bioconversion reaction using the spore displaying the β -galactosidase on its surface, for example. The claims are submitted to be patentable over Pan and Wang.

The cited art fails to teach or suggest the claimed combination of β -galactosidase and pCrylp-CMCase-hp. The claimed invention shows extraordinarily advanced effects that bioconverted β -galactosidase activity shows high level of stability in organic solvent (see Table 2). The claims are submitted to be patentable over the cited combination of art.

Withdrawal of the Section 102 and Section 103 rejections are requested.

KWON et al
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The claims are submitted to be in condition for allowance and a Notice to that effect is requested.

The Examiner is requested to contact the undersigned, preferably by telephone, in the event anything further is required.

Respectfully submitted,

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